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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,689	04/13/2004	Jun Kamada	1341.1201	2895
21171 7590 05/10/2007 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER KANE, CORDELIA P	
			ART UNIT 2109	PAPER NUMBER
			MAIL DATE 05/10/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/822,689

Applicant(s)

KAMADA ET AL.

Examiner

Cordelia Kane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is responsive to the non-provisional application filed on April 13, 2004. Claims 1 – 16 are pending. Claims 1, 8, and 10 are independent.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Central Processing Unit and Computer Program for Managing Multiple Operating Modes.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear from the claim what exactly is meant by "if number of the at least useable commands...". For the purpose of examination it is interpreted to mean that if the command for the operating mode is not already in storage, then the operating mode and the corresponding command are stored.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10 – 16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

6. Descriptive material can be characterized as either “functional descriptive material” or “non-functional descriptive material.” Both types of “descriptive material” are non-statutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

7. Merely claiming non-functional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”).

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4 – 7, 10, and 13 – 16 are rejected under 35 U.S.C. 102(b) as being anticipated by James A. Keller et al's US Patent 5,752,032. Referring to claim 1, Keller teaches:

a. Loading a shell module, operating mode, into memory (column 7, lines 61-62). By loading the shell module it is inherent that the shell is stored somewhere.

b. Selecting a board driver, command group, that corresponds with the shell module (column 9, lines 24-26). It is inherent that if a board driver can be selected that it is stored somewhere.

c. Adding a new shell module (column 33, lines 17-18) and connecting a board driver to the new module (column 34, lines 3-6).

d. Loading hardware interface modules (firmware) that correspond to the board driver (column 9, lines 35-39) that are part of a peripheral (column 5, lines 62-63).

10. Referring to claim 10, Keller teaches an API (column 3, line 56) for performing the steps of the CPU of claim 1 and therefore the computer program of claim 10.

11. Referring to claim 4, Keller teaches that the operating system services, control unit, control access to resources (memory, libraries, etc.) (column 9, lines 3-12).

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12. Referring to claim 13, Keller teaches an API (column 3, line 56) for performing the steps of the CPU of claim 4 and therefore the computer program of claim 13.

13. Referring to claim 5, Keller teaches that when there is a new color depth (command) (column 33, lines 5-6) that a new shell module is created/added (column 33, lines 17-18) and the corresponding command is stored as well (column 34, lines 3-6).

14. Referring to claim 14, Keller teaches an API (column 3, line 56) for performing the steps of the CPU of claim 5 and therefore the computer program of claim 14.

15. Referring to claim 6, Keller teaches :

e. Freeing the memory used to store the shell module (column 36, lines 21-22). Freeing the memory used to store it is analogous to deleting the module.

f. Freeing the memory used to run the hardware interface module (column 36, lines 12-14). Freeing the memory used is analogous to deleting the module.

16. Referring to claim 15, Keller teaches an API (column 3, line 56) for performing the steps of the CPU of claim 6 and therefore the computer program of claim 15.

17. Referring to claim 7, Keller teaches when a legacy application is present to use a virtualizing device driver to emulate the registers and run the entire shell module (column 36, lines 35-44). While it does not explicitly state that an error occurred, it is inherent that the system must have encountered an error to be able to detect that the application was in a legacy format.

18. Referring to claim 16, Keller teaches an API (column 3, line 56) for performing the steps of the CPU of claim 7 and therefore the computer program of claim 16.

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 3, 11 and 12 are rejected under 35 USC 103 (a) as being obvious over Keller in view of Bryon Nevis et al's US Patent 6,581,159. Referring to claim 3, Keller discloses all the limitations of the parent claim. Keller does not appear to explicitly disclose encrypting the firmware with a digital signature. However, Nevis discloses using digital signature techniques to validate the firmware (column 4, lines 28-30). Keller and Nevis are analogous art because they are from the same field of endeavor, of changing operating modes. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Keller and Nevis before him or her, to modify Keller to include the encryption of Nevis. The motivation for doing so

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would have been that it is more secure and resistant to tampering (column 1, 26-27).

Therefor it would have been obvious to combine Nevis with Keller to obtain the invention as specified in the claim 3.

21. Referring to claim 12, Keller teaches an API (column 3, line 56) for performing the steps of the CPU of claim 3 and therefore the computer program of claim 12.

22. Referring to claim 2, the digital signature technique, as described in claim 3, is an encryption/decryption method, therefor claim 2 is also rejected.

23. Referring to claim 11, Keller teaches an API (column 3, line 56) for performing the steps of the CPU of claim 2 and therefore the computer program of claim 11.

24. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller, in view of Mark Biondi's US Patent 6,622,246 and further in view of Brent Gregory et al's US Patent 5,748,488. Referring to claim 8, Keller discloses

g. Loading a shell module, operating mode, into memory (column 7, lines 61-62). By loading the shell module it is inherent that the shell is stored somewhere.

h. Selecting a board driver, command group, that corresponds with the shell module (column 9, lines 24-26). It is inherent that if a board driver can be selected that it is stored somewhere.

i. Adding a new shell module (column 33, lines 17-18) and connecting a board driver to the new module (column 34, lines 3-6).



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- j. Loading hardware interface modules (firmware) that correspond to the board driver (column 9, lines 35-39) that are part of a peripheral (column 5, lines 62-63).

Keller does not appear to explicitly disclose loading logic circuit data instead of firmware. However, Biondi discloses using a logic circuit instead of firmware (column 6, lines 26-30). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Keller and Biondi before him or her, to modify Keller to include using a logic circuit instead of firmware of Biondi. The motivation for doing so is that any machine capable of performing the steps of the firmware could be used to replace it (column 6, lines 32-35). Keller in view of Biondi does not appear to disclose how to implement the logic circuit that is replacing the firmware. Gregory discloses that to generate a logic circuit all that is needed is the information on the signals (column 2, lines 28-30). Therefor instead of passing the actual firmware, as taught by Keller, one would need to pass the data on the signals (claim 8). Gregory goes on to disclose how to generate that logic circuit after receiving the appropriate information on the signals (column 2, lines 40-42) (claim 9). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Keller, Biondi and Gregory before him or her, to modify Keller in view of Biondi to include how to create the logic circuit of Gregory. Therefor it would have been obvious after modifying Keller with Biondi to include how to implement the logic circuit mentioned as taught by Gregory. Therefor it would have been obvious to combine Gregory with Biondi and Keller to obtain the invention as specified in claims 8 and 9.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cordelia Kane whose telephone number is 571-272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CPK

  
KIMBERLY D. NGUYEN  
PRIMARY EXAMINER